

**REMARKS**

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.114, and in light of the remarks which follow, are respectfully requested.

By the present amendment, claims 1, 13, 14 and 17 have been amended to specify that the ink-jet ink of the presently claimed invention consists essentially of the specified components. Claims 1, 4-14 and 16-18 remain pending in this application.

Claims 1, 4-11, 13, 14, 17 and 18 were finally rejected under 35 U.S.C. §103(a) as unpatentable over Tsutsumi et al. (U.S. Patent No. 6,031,019) in view of Meyrick et al. (U.S. Patent No. 6,344,497), Kiritani et al. (U.S. Patent No. 4,665,411) and either JP 03231975 or JP 09059552, for the reasons set forth in paragraph (3) of the Office Action mailed October 31, 2003. In addition, claim 16 was rejected under 35 U.S.C. §103(a) as unpatentable over Tsutsumi et al. in view of Meyrick et al., Kiritani et al., and either JP 03231975 or JP 09059552 as applied to claims 1, 4-11, 13, 14, 17 and 18 above, and further in view of Idei et al. (U.S. Patent No. 5,302,437) for the reasons given in paragraph (4) of the Office Action. Further, claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tsutsumi et al. (U.S. Patent No. 6,031,019) in view of Meyrick et al. (U.S. Patent No. 6,344,497), Kiritani et al. (U.S. Patent No. 4,665,411) and Suzuki et al. (U.S. Patent No. 5,508,421) for the reasons given in paragraph (5) of the Office Action. Reconsideration and withdrawal of these rejections are respectfully requested in view of the above amendments and for at least the following reasons.

The presently claimed invention is directed to an ink-jet ink which consists essentially of a coloring composition composed of coloring particulates that include a specific vinyl polymer, a specified oil-soluble dye, and a specified organic solvent in a specified amount. The claimed ink-jet ink exhibits excellent color hue, dispersion stability, water resistance, light resistance and ink permeability and leaves no stain directly after printing. In polymer-dispersion type inks, it is essential to establish stability of the coloring particulates dispersed in water. Thus, it is necessary to provide a specific combination of ingredients and/or a specific process for mixing of polymers, dyes and/or additives in order to achieve stability. In the present invention, a stable ink containing fine coloring particulates is obtained by combining specific polymers with specific dyes and a specified organic solvent in the specified amounts.

Tsutsumi et al. '019 is the primary reference applied in all the rejections in the last Office Action. This document discloses an aqueous ink for ink-jet printing comprising an aqueous dispersion of fine polymer particles impregnated with a water-insoluble or sparingly water-soluble colorant. The reference discloses that the polymer-dispersion type aqueous inks of the invention exhibit advantageous characteristics, including dispersion stability, by incorporating therein an amino acid or a compound represented by formulae (1), (2) or (3). Note column 2, lines 6-33 of Tsutsumi et al. '019. In the inks disclosed in this document, it is clear that dispersion stability is only achieved by incorporating additives such as an amino acid (Table 2, columns 18 and 19). Comparative Example 3 in Table 2 shows that stability was not achieved in the absence of the required additive even though the same polymer and oil-soluble dye were used. Clearly, the system of Tsutsumi et al. '019 requires the

presence of the amino acid or compound of formulae (1), (2) or (3) to achieve dispersion stability.

In stark contrast to the inks described in Tsutsumi et al. '019, the ink-jet inks of the present invention attain dispersion stability by combining specific components in specified proportions as set forth in the present claims. Applicants discovered that the use of the additives of Tsutsumi et al. '019 to achieve stability can be obviated. To further emphasize the distinctions between the invention of Tsutsumi et al. '016 and that of Applicants, the present claims now specify that the ink-jet inks of the invention consist essentially of the specified components. Accordingly, the present claims exclude the additives which are necessary components of the inks of Tsutsumi et al. '016 in order to achieve dispersion stability.

As the Examiner is undoubtedly aware, the language "consisting essentially of" excludes ingredients which would materially affect the basic and novel characteristics of the claimed invention; *In re Herz*, 537 F.2d 549; M.P.E.P. §2111.03. The presence of the stabilization additives of Tsutsumi et al. '019 in the presently claimed inks would be expected to adversely affect the balance of properties provided by each component which mutually contribute to the basic and novel characteristics of the presently claimed invention.

The various secondary references relied upon in the rejections of the present claims fail to disclose or suggest that the stability agents required in the inks of Tsutsumi et al. '019 can be eliminated by controlling the individual components and proportions as discovered by Applicants. Even assuming, *arguendo*, the obviousness of adding the teachings of Myrick et al. '497, JP '975 or '552 or Suzuki et al. '421 and Idei et al. '437 to the inks of Tsutsumi et al. '019, the resultant

compositions would still contain the stability additives required by the primary reference and now excluded from the present claims.

For at least the above reasons, the various §103(a) rejections set forth in the Final Rejection should be withdrawn. Such action is respectfully requested.

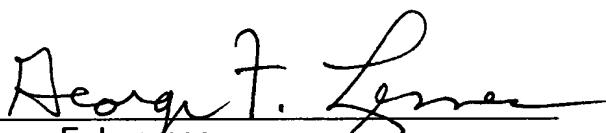
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at her earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: April 30, 2004

By:



George F. Lesmes  
Registration No. 19,995

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620